May 13, 2014

David Brotzman
Executive Director
VT Center for Geographic Information
58 S. Main St, Suite 2
Waterbury, VT 05676

Re: Response to RFI for a VT Open GeoData Portal

Dear Mr. Brotzman:

Thank you for the opportunity to respond to the RFI for the Vermont Open GeoData Portal. We applaud the effort to improve the organization and sharing of spatial data in the public interest.

Founded in 1880, Sewall is an international professional consulting firm headquartered in Old Town, Maine that specializes in natural resources, energy, and infrastructure. The company's diverse portfolio includes 134 years' experience in surveying, forest appraisal and civil engineering; 60 years' in aerial mapping; and 30 years' in GIS and other geospatial products.

Sewall created a custom geoportal https://geopower.jws.com/rockland/ for Rockland County, New York that received GeoWorld magazine's Geospatial Leadership Award in the Public Enterprise category. We deployed a similar portal as part of our complete package of GIS services for the ConnectME Authority, a unit of Maine state government whose mission is to facilitate the universal availability of broadband. We developed and host the CityMap viewer https://geopower.jws.com/westport/ApplicationsPage.jsp# for a number of municipalities throughout New England and the South, as well as a number of other custom applications on the ArcGIS Server platform.

We propose that ESRI's Geoportal Server, backed by map services hosted by ArcGIS Server, would be the ideal platform for meeting the Open GeoData Portal requirements. Sewall has the skills to assist VCGI with a successful and cost-effective implementation.

Sincerely,
JAMES W. SEWALL COMPANY

David T. Edson
President/CEO

Gary Mullaney
Director, Systems

(140260)

Offices nationwide
sewall.com

136 Center Street
P.O. Box 433
Old Town, Maine 04468

207 827 4456
fax: 207 827 3641
800 648 4202

SEWALL
JAMES W SEWALL COMPANY / *Since 1880*

Below are Sewall's responses to the questions presented in the RFI for a VT Open GeoData Portal.

Question	Response
Company name	James W. Sewall Company
Parent company	None
Company address	136 Center Street Old Town, Maine 04468
Name of person responsible for the information contained in this RFI	Gary Mullaney
Telephone number Fax number Email address Web page	843-606-1022 207-827-3641 gary.mullaney@sewall.com www.sewall.com
Company location: 　　　Corporate office 　　　Local offices	136 Center Street Old Town, Maine 04468 Caribou and Portland, Maine International Falls, Minnesota Woodbridge, Virginia Summerville, South Carolina Tuscumbia, Alabama
Please provide your recommendations on the system solution design for a VT Open GeoData Portal that would support the requirements articulated in this RFI. 　• Are there any functional requirements that you believe could be especially challenging or costly to implement?	See Attachment 1
Are you proposing to use a Commercial-Off-The-Shelf (COS), Open Source, custom, and/or hybrid solution?	We propose to use the ESRI Geoportal Server solution, which is Open Source. The Geoportal Server will, in turn, rely on ArcGIS Server, a COTS product, for some map services.
Training: 　• Would you offer formal user training? 　• What type of courses do you run and what is their duration? 　• What level of training would you recommend?	Training: 　• Yes, we would offer training. 　• Courses would be customized for VCGI. 　• We recommend one 4-hour course for administrators and one 4-hour course for publishers and users.

Question	Response
Please provide details of how the product is supported. • What levels of support is available, definition of each level and what are the hours of operation and response times? • Does support include product updates, as well as bug fixes at no extra charge?	Please provide details of how the product is supported. • The terms of hosting and support agreements are negotiable. Most include 30-minute response to severe incidents during East Coast business hours. • Sewall will correct any defects for six months following the initial release at no charge. If we provide hosting, we will maintain the underlying infrastructure hardware and software. Updates or enhancements to the geoportal application itself would be on a time and materials basis.

Please summarize the total costs of your proposed solution.
• Total estimated cost of proposed solution.
  o Year 1 – Build and Deploy
    ▪ Combined estimate for all requirements under Section 6.1
    ▪ Combined estimate for all requirements under Section 7.2 – APPENDIX II
    ▪ Other costs itemized for Year 1
  o Year 2 – Support and Maintenance (itemized)
  o Year 3 – Support and Maintenance (itemized)
• What are the estimated licensing costs (if any) for individual parts of the solution?
• What are your consultancy rates to help with implementation and/or customization?
• What do you charge for training?
• What are the estimated maintenance and support costs on an annual basis? Does it include software updates/upgrades?
	See Attachment 2

Attachment 1

Please provide your recommendations on the system solution design for a VT Open GeoData Portal that would support the requirements articulated in this RFI.

- **Are there any functional requirements that you believe could be especially challenging or costly to implement?**

Sewall proposes to adapt and customize ESRI's Open Source Geoportal Server to the specific needs of VCGI. Geoportal Server meets most of the functional requirements mentioned in the RFI, is widely used, has an active developer community, and can effectively leverage the ArcGIS Server resources which VCGI already has in place. Although the code is freely available, a successful implementation requires expert-level software design, development, and testing resources as well as deep GIS technical knowledge (including ArcGIS Server) which Sewall is able to offer.

The main project steps would be:

1. Functional and workflow design by Sewall based on the User, Publisher, and Administrator Stories and a review of the available off-the-shelf components for ESRI's Geoportal Server.
2. Functional design review and graphical design contributions by VCGI.
3. Development, internal testing and documentation by Sewall.
4. Beta release testing and evaluation by VCGI and stakeholders.
5. Final revisions based on the beta reviews.
6. Training for administrators and publishers.

Sewall is able to offer hosting of the geoportal in its private cloud hosted in commercial datacenter space with multiple redundant high bandwidth Internet connections and redundant power, air conditioning and physical security. Alternatively, we could provide the completed geoportal for hosting in a facility of VCGI's choosing.

Requirements of concern are as follows:

User – High Priority

No concerns.

User – Medium Priority

ID 5 – Help resources on how to use GIS data. *We can envision providing videos and similar resources on how to use the geoportal itself to find GIS data and map services. However, providing general instruction on using GIS data would expand the scope of the project unreasonably.*

ID 20 – Projection options when downloading. *In addition to posing complex user interface challenges, we believe it is unwise to allow the portal to reproject data for download.*

ID 22 – Notifications when new resources are added. *Since all data is free and open, we assume most users are anonymous (while publishers and administrators have login accounts). The geoportal does not seem to have a "subscribe to change notices" feature, which would have to be built and added. Many implementations instead use a "what's new" query by default on the home page.*

ID 29 – Download thematic data in bulk. *ESRI's Geoportal Server does not provide bulk or group downloads. As a workaround, publishers could add thematic bundles of data.*

ID 39 – Flag errors in the data and have them submitted to the data steward. *ESRI's geoportal does not provide a means to flag error locations within spatial data or map services.*

ID 45 – Post comments for others to see. *The geoportal does not provide for comments from users, only from publishers.*

Publisher – High Priority

ID 17 – Offer simple data hosting subscription plan for NGOs or individuals. *It is unclear what this means, although it appears to conflict with the requirement that data must be freely available to all.*

ID 19 – Define groups of users to collaborate on editing and maintaining data. *Collaborative editing is a very different activity from publishing. The portal is not normally used to establish and enforce editing workflows. Restricting some data to certain groups appears to conflict with the requirement that no data is private or restricted.*

Publisher – Medium Priority

ID 6 – Discoverable through Google searches. *This would not appear to be possible at the level of individual data files or other catalogued resources within the geoportal.*

ID 8 – Configurable "space" or "site" on the Warehouse with custom branding. *Each geoportal site has only one type of branding.*

ID 26 – Statistics showing how often particular web services are used. *This is best managed by the particular GIS server hosting the web services. Portal is a gateway only, it does not host map services.*

Attachment 2

Please summarize the total costs of your proposed solution.

Costs are budgetary estimates only and are not binding for Sewall. We assume that the completed geoportal site will be hosted by VCGI.

We would be pleased to propose firm pricing in response to an RFP if one is subsequently issued.

- **Total estimated cost of proposed solution.**
  - **Year 1 – Build and Deploy**
    - **Combined estimate for all requirements under Section 6.1**

Project Phase	*Professional Service Hours/Cost*
Design and specification	*60 hours*
Development	*175 hours*
Testing and Revisions	*60 hours*
Deployment and Validation on VT Servers	*30 hours*
Documentation and Training	*30 hours*
Total Service Hours	*355 hours*
Professional Services Cost	*$40,000*
Travel Expense	*$2,000*
Total Cost	*$42,000*

-
  -
    - **Combined estimate for all requirements under Section 7.2 – APPENDIX II**

      We cannot accurately estimate the costs for these requirements without further definition. Most are not part of the ESRI Geoportal Server and thus would require a full design, development and integration cycle. The cost to cover all of the optional (low priority) requirements could be on the order of two to three times the cost of the high and medium priority requirements.

    - **Other costs itemized for Year 1**

      Sewall will repair defects during the first six months at no charge.
      We recommend that VCGI make provision for 40 support hours per month for the first three months, then 20 hours per month thereafter in year one. Support cost for year one would be actual time and expenses, not to exceed $30,000.

- **Year 2 – Support and Maintenance (itemized)**

  We recommend that VCGI make provision for 15 support hours per month for year two. Support cost for year two would be $18,000.

- **Year 3 – Support and Maintenance (itemized)**

  We recommend that VCGI make provision for 10 support hours per month for year three. Support cost for year three would be $12,000.

- **What are the estimated licensing costs (if any) for individual parts of the solution?**

  There are no licensing costs, as the solution is Open Source. We assume that VCGI will make available the appropriately licensed Windows Server and ArcGIS Server.

- **What are your consultancy rates to help with implementation and/or customization?**

Position Type	Hourly Rate
Project Manager	$140
Systems Engineer	$140
GIS Database Engineer	$130
Software Developer	$100

- **What do you charge for training?**

  Training is billed at normal hourly rates plus actual travel expense.

- **What are the estimated maintenance and support costs on an annual basis? Does it include software updates/upgrades?**

  We do not propose fixed maintenance and support costs. VCGI will be able to choose to what extent Sewall will provide support and make enhancements, and all such services will be billed on an hourly basis.